

Abstract Submitted  
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**A New Correlated Model of Colossal Magnetoresistive Manganese Oxides** D.I. GOLOSOV, Bar-Ilan University, Israel — A new minimal model is proposed for the doped manganese oxides which exhibit colossal magnetoresistance (CMR), involving (in addition to the ionic spins) a broad spin-majority conduction band as well as nearly localised spin-minority electron states. We outline the reasons to introduce this model, and discuss some of its properties. In particular, a mean field analysis yields an interaction-induced enhancement of the interband hybridisation and implies an emergence of a small energy scale, linked to the longitudinal spin dynamics, charge fluctuations, and presumably also to the carrier transport. We suggest that these conclusions merit further theoretical and experimental investigation in the context of the CMR manganates.

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